

REMARKS

Claims 3, 5 and 7 are canceled without prejudice or disclaimer, herein. Claim 1 is amended with subject matter from the canceled claims and from subject matter found in the Specification, at page 8, para [0038] and Fig. 9, for example. Therefore, no new matter is added. Claims 1, 2 and 4 are pending.

In view of the above amendments and following remarks, reconsideration of this application is respectfully requested.

I. Rejections Under 35 U.S.C. §112

The Office Action rejects claims 1-7 under 35 U.S.C. §112, first paragraph. Specifically, the Office Action rejects claim 1's "the counter electrode contacting the light absorbing dye" subject matter. Applicants have amended claim 1 to remove the rejected subject matter. Accordingly, Applicants respectfully request the withdrawal of this rejection.

II. Rejection under 35 U.S.C. §102

The Office Action rejects claims 1, 2, and 5 under 35 U.S.C. §102(b) over Park et al. (K.W. Park, K.S. Ahn, J.H. Choi, Y.C. Nah, Y.M. Kim, "Pt-WO_x electrode structure for thin-film fuel cells," Applied Physics Letters 81, (2002) 907-909, hereinafter as "Park"). This rejection is respectfully traversed.

The test for anticipation under section 102 is whether each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131. The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

Applicants' independent claim 1 recites, a method for fabricating a counter electrode for a dye-sensitized solar cell, the method comprising: co-sputtering platinum and a metal oxide as

target materials onto a substrate; forming a counter electrode including nanocrystalline platinum and an amorphous metal oxide on the substrate, wherein the counter electrode has a non-layered structure, wherein the dye-sensitized solar cell comprising the nanocrystalline platinum-amorphous metal oxide counter electrode is at least about 40% more efficient, as measured by a current-voltage characteristics, than the dye-sensitized solar cell comprising a platinum electrode, and wherein the metal oxide comprises a metal having an open structure and wherein the metal oxide is selected from oxides of tantalum and silicon.

The subject matter recited in Applicants' claim 1 is novel over the applied reference of Park, as Park does not disclose or suggest all the features recited therein. Specifically, Park does not disclose or suggest at least the "is at least about 40% more efficient" element and, additionally, does not disclose or suggest the features of canceled claim 7, which have been amended into claim 1.

Accordingly, the rejection under 102(b) for claim 1 has been overcome.

Claim 2 depends from claim 1, and claim 5 is canceled. In view of the above, Applicants respectfully request the withdrawal of this rejection.

III. Rejections under 35 U.S.C. §103

The Office Action rejects claims 1 and 7 under 35 U.S.C. §103(a) over Pruneanu et al. (S. Pruneanu, G. Mihailescu, E. Indrea, "Nanoporous Al₂O₃ membranes filled by platinum," Semiconductor Conference 2000, CAS 2000 Proceedings, International 2, (2000) 475-478, herein after as "Pruneanu") in view of Park. This rejection is respectfully traversed.

To establish a *prima facie* case of obviousness, the PTO must satisfy three requirements. First, as the U.S. Supreme Court recently held in *KSR International Co. v. Teleflex Inc. et al.*, 127 S. Ct. 1727 (April 30, 2007), "a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. ...it [may] be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to

combine the known elements in the fashion claimed by the patent at issue. ...it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does... because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." (*id.* at pp. 13-15.) Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991). Lastly, the prior art references must teach or suggest all the limitations of the claims. *In re Wilson*, 165 USPQ 494, 496 (C.C.P.A. 1970).

Pruneanu does not supply the subject matter lacking in Park. Moreover, Pruneanu is silent about the materials used, as Pruneanu only discloses the use of Al₂O₃. Additionally, since the subject matter of claim 5 was not rejected under 103(a), and claim 1 now has been amended with the subject matter of claim 5, Pruneanu does not disclose or suggest all the features of Applicants' independent claim 1. Therefore, Park and Pruneanu, individually or in combination, do not disclose or suggest all the features of Applicants' claimed subject matter.

In view of the above, Applicants respectfully request the withdrawal of this rejection.

The Office Action rejects claims 3 and 4 under 35 U.S.C. §103(a) over Park in view of Vink et al. (T.J. Vink, W. Walrave, J.L.C. Daams, P.C. Baarslag, J.E.A.M. van den Meerakker, "On the homogeneity of sputter-deposited ITO films Part I. Stress and microstructure," Thin Solid Films 266 (1995) pp. 145-151, hereinafter as "Vink"). This rejection is respectfully traversed.

Claim 4 depends from claim 1. For at least the reasons stated above, claim 1 is allowable over Park. And since Vink is addressed to the subject matter of claim 4, Park and Vink, do not anticipate or suggest all the features recited in Applicants' independent claim 1, now having the subject matter of claim 5 and 7 as well as the subject incorporated from the Specification. Accordingly, claim 4 should be allowable for depending from allowable claim 1. Therefore, Applicants respectfully request the withdrawal of this rejection.

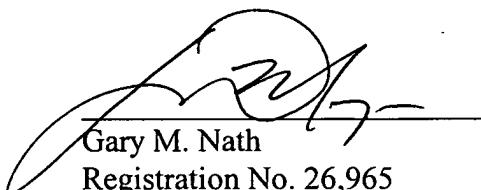
CONCLUSION

In light of the foregoing, Applicants submit that the application is in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner call the undersigned.

Respectfully submitted,
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